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ABSTRACT

A sample of 175 students, constituting grades 10, 11, and 12 of two high schools, was used in the validation of a new Syllabication Skills Test. On the first day, the students completed four forms of the syllabication test; on the second, they completed Survey F of the Gates-MacGinitie Reading Tests. Means and standard deviations were similar for the four forms, and obtained intercorrelations were high enough to allow mean scores to be used in further analyses. Significant correlations were found between these means and the subscores for both vocabulary and comprehension but not for grade level or sex of the student. Comparisons of subsamples scoring above or below average on both reading subtests indicated that the above average readers had superior syllabication skills. (AA)

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SYLLABICATION SKILLS AND READINC ACHIEVEMENT OF HIGH SCHOOL STUDENTS

The ability to read is achnowledged as one of the most universal and useful skills in our contemporary and technological society. There is some disagreement among reading authorities as to specific methodology for developing proficient readers, "but the value of phonetic and structural analysis skills in developing reading proficiency is unquestionable" (Curry & Rigby, 1969, p.iii).

Structural analysis is a process by which a reader deals with root words and their inflected and derived forms. This includes variant endings, compound words, prefixes, suffixes, contractions, and syllabication (Bond & Wagner, 1966).

Bond and Wagner wrote that one advantage of syllabication over other of the more detailed methods of word analysis is that it breaks the word into relatively large elements. A second advantage is that

often these parts are well known smaller words and leads to the reinforcement of dependence upon the technique of known words within larger words. A third advantage is that syllabication teaches the system that is employed in the most usable book of all for word recognition and word pronunciation, the dictionary.

Harris (1970) emphasizes that for students who have trouble with blending single phonemes together, the blending of syllables to make a spoken word is frequently much easier. Karlin (1972) stresses that the student who can divide a word into syllables before he attempts to apply phonics to it is likely to recognize the word. He wrote that it is more efficient to recognize the pronunciation of a syllable then to analyze words letter by letter and then combine the sounds" (p. 138).

Spache (1969) wrote that most readers, as they mature in reading in intermediate and upper grades become increasingly dependent upon their knowledge of syllables and less upon letter phonics. Burmeister (1974) attested to the use of syllabication generalizations for secondary students. She said, "among the most useful phonic generalizations for secondary students to know are those that relate to syllabication" (p. 136).

Implicit in most of the recommendations for teaching syllabication principles as a word recognition skill is the assumption that the student who can apply these principles will become a more efficient reader.

The purpose of the present study was three-fold: (1) to establish validity and reliability of the Syllabication Skills Test, (2) to determine if there were significant correlations between syllabication skills and vocabulary, comprehension, gender and grade level, and (3) to determine if there were significant differences between the syllabication skills of above-average and below-average readers.

Experiment One

In order to obtain the necessary data for determining the performance levels of students' syllabication skills, it was necessary to construct and validate a measuring instrument in that none was available.

Subjects

The 175 students who served as subjects comprised the population of grades ten, eleven and twelve of two independent highschools. Only those students from the highschool who were unable to complete all tests were eliminated from the study. Blacks, Indians and Caucasians were represented in the schools.

Construction of the Syllabication Skills Test

Syllabication generalizations to be tested were selected by applicability of usage in vocabulary of five basal reading series (Wood, 1973). Subject-matter experts attested to the educational validity of the generalizations and verified that the distribution of items covered the test domain. The test items were constructed of words that tested these nine generalizations (Curry & Rigby, 1969, p. v). The generalizations utilized were:

1. A single consonant usually goes with the vowel which follows when that consonant appears between two vowels.
2. A single consonant appearing between two vowels usually goes with the preceding vowel if that vowel is short and within an accented syllable.
3. No syllabic division should be made between consonants that constitute a consonant blend or consonant digraph.
4. The syllabic division of two consonants, which are neither blend nor digraph, and which appear between two vowels, usually comes between the two consonants.

5. Prefixes usually form separate syllables.

6. Suffixes usually form separate syllables.

7. The suffix -ed, if immediately preceded by the letter d or t, forms a separate syllable. The suffix -ed combines with other letters to form one syllable if not preceded by d or t.

8. A word ending in le, when the le is preceded by a consonant, forms a final syllable with that consonant and the le. (Note: le stands alone as the final syllable when preceded by ck.)

9. A syllabic division is made between words which form a compound.

Four forms of the one-hundred item test were constructed--A, A-1, B and B-1. Forms A-1 and B-1 consist of the identical items as A and B respectively. Forms A-1 and B-1 require the students to syllabicate the word; whereas, forms A and B are comprised of multiple-choice items.

Procedures for Validation

A factorial analysis of variance was computed with the four independent variables representing the four forms of the tests--A, A-1, B and B-1. The statistical analysis was computed to determine if the four forms of the test were parallel and if all forms of the test were significantly correlated to generate one factor.

Results and Discussion

The means and standard deviations for the four test forms are reported in Table 1.

Insert Table 1 about here

Table 2 reveals the obtained correlations of test forms.

Insert Table 2 about here

The variance accounted for by the above matrix was 2.92 which is 73 percent of the total score variance.

The results of the means and standard deviations of the four forms of the test indicate that the tests are parallel. The correlation coefficients of the four test forms are highly significant ($p < .01$). The factor analysis of variance indicated that the four tests were highly correlated and permitted the use of the mean score of each student on the four tests to be used as the dependent variable in the study.

Experiment Two

In this investigation of the correlation between syllabication skills and vocabulary, comprehension, gender and grade levels, the following hypotheses were formulated:

Ho_1 There are no significant correlations between the scores on the Syllabication Skills Tests and the scores on the vocabulary section of the Gates-MacGinitie Reading Tests.

Ho_2 There are no significant correlations between the scores on the Syllabication Skills Tests and the scores on the comprehension section of the Gates-MacGinitie Reading Tests.

Ho_3 There are no significant correlations between the scores on the Syllabication Skills Tests and the gender of the subjects.

Ho_4 There are no significant correlations between the scores on the Syllabication Skills Tests and the grade level of the subjects.

The .01 level of significance was used to evaluate the relevant correlations.

Procedures

The same 175 subjects as in experiment one were given all forms of the Syllabication Skills Test on the first day. The following day, Survey F of the Gates-MacGinitie Reading Tests for grades 10 through 12

was administered to the subjects. The subjects were identified by grade level and gender.

A step-wise multiple regression statistical analysis was employed to examine the data. The mean of the Syllabication Skills Tests for each subject was used as the criterion variable. Four predictor variables were defined as: (1) the raw scores on the vocabulary sub-test of the Gates-MacGinitie Reading Test, (2) the raw score on the comprehension sub-test of the Gates-MacGinitie Reading Test, (3) the grade level, and (4) the gender.

Results and Discussion

Pearson correlation coefficients are reported in Table 3.

Insert Table 3 about here

The first hypothesis that there would be no significant correlations between the scores on the Syllabication Skills Tests and the scores on the vocabulary sub-test of the Gates-MacGinitie Reading Tests was rejected ($p < .01$).

The second hypothesis that there were no significant correlations between the scores on the Syllabication Skills Tests and the scores on the comprehension section of the Gates-MacGinitie Reading Tests was rejected ($p < .01$).

The third hypothesis that there were no significant correlations between the scores on the Syllabication Skills Tests and the gender of the subjects was supported ($p > .01$).

The fourth hypothesis that there were no significant correlations between the scores on the Syllabication Skills Tests and the grade level of the subjects was accepted as the data did not support a significant correlation ($p > .01$).

Comprehension was the highest predictor of syllabication skills, with a multiple R of .56. Gender increased the prediction to .59, vocabulary to .60 and grade level did not raise the prediction level above .60. Because of the high correlations between comprehension and vocabulary and between each of these scores and syllabication, the data appear to support both comprehension and vocabulary as predictors of syllabication.

Experiment Three

To determine if there were significant differences between the syllabication skills of above-average readers and below-average readers, the following hypothesis was formulated: There is no significant difference between the mean scores of above-average and below-average readers on the Syllabication Skills Tests.

Definition of Terms

The following definitions were adopted for this study:

1. Above-average readers were those who scored at or above the 55th percentile on two sub-tests (vocabulary and comprehension) of the Gates-MacGinitie Reading Test, Survey F.

2. Below-average readers were those who scored at or below the 45th percentile on two sub-tests (vocabulary and comprehension) of the Gates-MacGinitie Reading Test, Survey F.

Subjects

Of the original 175 subjects, 101 students were identified as below-average readers and 42 students were identified as above-average readers, yielding an n of 143.

Procedures

Due to the unequal number of subjects in the two groups, an F test for the differences between the two variances was calculated. Differences between means were analyzed by use of a *t* test.

Results and Discussion

The F-ratio obtained for the differences between the variances of the two groups ($F=1.93$, $df_1=100$, $df_2=41$) showed that the variances were not significantly different at the .01 level. Table 4 shows the results of the *t* test between the two group means.

Insert Table 4 about here

Since significant differences were found between the mean syllabication scores, the null hypothesis was rejected ($p < .01$). As is shown by the results, the above-average readers' syllabication skills were superior to the below-average readers' syllabication skills.

Discussion

The analysis of the data in this study indicated that the Syllabication Skills Test is a valid instrument for measuring those skills of the subjects involved in the study.

Syllabication skills were shown to be significantly correlated with vocabulary and comprehension. Significant differences were revealed in the data analysis between above-average readers and below-average readers, with the above-average readers showing the highest syllabication skills scores.

The data from this study imply the importance of including instruction in syllabication principles as a part of the reading program. The high correlations between syllabication skills scores and vocabulary and comprehension scores infer that there is a strong relationship between these skills. The data from this study lead to the speculation that those students who have achieved the ability to apply syllabication principles have become more efficient readers.

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Table 1

Means and Standard Deviations

of Syllabication Skills Test

Test Forms	Means	S.D.
A	68.43	12.8
A-1	67.10	9.9
B	67.53	12.9
B-1	68.33	10.7

Table 2

*Correlation Coefficients for A, A-1, B and B-1

Test Forms	A-1	B	B-1
A	.66	.74	.64
A-1		.66	.84
B			.66

* $p < .0$

Table 3

Intercorrelations Among the 5 Variables

Variables	1	2	3	4	5
1. Gender	---	-.20	-.02	.01	.20
2. Syllabication		---	.53*	.56*	.13
3. Vocabulary			---	.87*	.24
4. Comprehension				---	.23
5. Grade level					---

*p < .01

Table 4

Syllabication Scores of Above-average Readers and Below-average Readers

Groups	Mean	S.D.	t
Below-average	65	9.9	6.24*
Above-average	75	7.1	

*p < .01